AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Application No.: 10/019,250

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

- 1. (currently amended): A rubber-reinforcing fiber comprising an organic fiber or an inorganic fiber made of an-a non-metallic inorganic compound, the organic fiber or the inorganic fiber being provided with a coating layer of 10 Å to 40 µm thick, and the coating layer containing at least one metal and/or metal compound selected from the group consisting of cobalt, zinc, copper, titanium, silver, nickel and compounds of the preceding metals, or an alloy of cobalt and at least one alloying element such as selected from the group consisting of zinc, copper, chromium, titanium, nickel, silver, tungsten, tantalum and molybdenum, wherein the organic fiber or the inorganic fiber is substantially non-bundled and is a fiber aggregate comprising a single filament or ten pieces or less of filaments.
- 2. (previously presented): The rubber-reinforcing fiber according to claim 29, wherein the coating layer contains metallic cobalt and/or cobalt oxide in an amount of 5 % by weight or more of elemental cobalt.
- 3. (previously presented): The rubber-reinforcing fiber according to claim 29, wherein the coating layer contains metallic cobalt and/or cobalt oxide in an amount of 20 % by weight or more of elemental cobalt.

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4. (previously presented): The rubber-reinforcing fiber according to claim 29,

wherein the coating layer contains metallic cobalt and/or cobalt oxide in an amount of 50 % by

weight or more of elemental cobalt.

5-9. (canceled).

10. (previously presented): The rubber-reinforcing fiber according to any one of

claims 2 to 4 and 29, wherein the organic fiber is a polyester fiber, a polyamide fiber, a

poly(vinyl alcohol) fiber, an acrylic fiber, a polyolefin fiber, a polyimide fiber, a poly(phenylene

sulfide) fiber, a poly(ether ether ketone) fiber, a polybenzazole fiber, a viscose fiber, or a

solvent-spun cellulose fiber; and the inorganic fiber made of a non-metallic inorganic compound

is a carbon fiber, a ceramic fiber or a glass fiber.

11. (previously presented): The rubber-reinforcing fiber according to claims 2 to 4

and 29, wherein the organic fiber comprises a polyester monofilament cord made of

poly(ethylene terephthalate) or mainly made of poly(ethylene terephthalate), and satisfies all the

following requirements:

(a) intrinsic viscosity: 0.85 dl/g or higher;

(b) birefringence: 0.17 or higher;

(c) crystal orientation: 0.88 or higher;

(d) density: 1.32 g/cm³ or higher;

(e) fineness: 1000 to 9000 dtex;

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(f) tenacity: 5.2 gf/dtex or higher; and

(g) initial modulus: 50 gf/dtex or higher.

- 12. (previously presented): The rubber-reinforcing fiber according to claim 30, wherein the rubber-reinforcing fiber is a polyester short fiber, a polyamide short fiber, a poly(vinyl alcohol) short fiber, an acrylic short fiber, a polyolefin short fiber, a polyimide short fiber, a poly(phenylene sulfide) short fiber, a poly(ether ether ketone) short fiber, a polybenzazole short fiber, a viscose short fiber, or a solvent-spun cellulose short fiber.
- 13. (withdrawn): A method for producing a rubber-reinforcing fiber, comprising a step of dry-plating a coating layer of a thickness of 10 Å to 40 µm on an organic or inorganic fiber which is substantially non-twisted, the coating layer containing at least one metal and/or metal compound selected from the group consisting of cobalt, zinc, copper, titanium, silver, nickel and compounds of the preceding metals, or an alloy of cobalt and at least one alloying element such as zinc, copper, chromium, titanium, nickel, silver, tungsten, tantalum and molybdenum.
- 14. (withdrawn): The method according to claim 13, wherein the organic or inorganic fiber is subjected to a plasma cleaning or plasma etching treatment for removing impurities prior to the formation of the coating layer.
 - 15. (withdrawn): The method according to claim 13, wherein the organic or

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inorganic fiber is further subjected to a processing for twisting or cutting into short fiber after dry-plating the coating layer.

- 16. (withdrawn): The method according to claim 13, wherein the coating layer is continuously formed by subjecting the organic or inorganic fiber comprising a single filament or ten pieces or less of filaments to the dry-plating treatment or to the dry-plating treatment successively after the plasma treatment while allowing the fiber to continuously run by pulling the fiber in its length direction.
- 17. (withdrawn): The method according to claim 13, wherein the coating layer is formed by subjecting a plurality of the organic or inorganic fibers arranged at intervals to the dry-plating treatment or to the dry-plating treatment successively after the plasma treatment while allowing the fibers to continuously run by pulling the fibers in their length direction, each fiber comprising a single filament or ten pieces or less of filaments, thereby forming the coating layer on a plurality of the fibers simultaneously and continuously.
- (withdrawn): The method according to claim 13, wherein a fiber aggregate 18. comprising entangled plurality of filaments each substantially not twisted with an adjoining filament is subjected to the dry-plating or to the dry-plating treatment successively after the plasma treatment to form the coating layer having a thickness of 10 Å to 40 µm; and then the dry-plated fiber aggregate is processed into short fibers.

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19. (withdrawn): The method according to claim 13, wherein a single short fiber filament or a plurality of short fiber filaments are subjected to the dry-plating treatment or subjected to the dry-plating treatment successively after the plasma treatment while keeping the short fiber filament or filaments moving on a stationary or running support, thereby forming the coating layer on the short fiber filament or filaments.

- 20. (withdrawn): The method according to claim 13, wherein the dry plating is a physical vapor deposition by vacuum deposition or ion plating.
- 21. (withdrawn): The method according to claim 13, wherein the dry plating is a physical vapor deposition by sputtering.
- 22. (previously presented): A rubber-fiber composite comprising the rubber-reinforcing fiber as defined in claim 29 or 30 and a rubber composition.
- 23. (original): A vulcanizable rubber article comprising the rubber-fiber composite as defined in claim 22.
- 24. (withdrawn): The vulcanizable rubber article according to claim 23, which is a pneumatic tire.

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- 25. (withdrawn): The vulcanizable rubber article according to claim 24, wherein the pneumatic tire has a carcass constructed by a carcass ply reinforced with the rubber–fiber composite.
- 26. (withdrawn): The vulcanizable rubber article according to claim 24, wherein the pneumatic tire has a bead portion comprising a bead wire and a bead filler, in which the bead filler is reinforced with the rubber–fiber composite.
- 27. (withdrawn): A pneumatic tire which comprises a tread portion, a pair of side portions connected to both lateral edges of the tread portion and a pair of bead portions disposed inside of each side portion, and which is reinforced by a carcass ply having carcass ply cords which were arranged along the radial direction of the tire and a belt ply which surrounds the carcass ply and is disposed inside of the tread portion, wherein the carcass ply cord is made of the rubber-reinforcing fiber as defined in claim 29 or 30.
- 28. (withdrawn): A pneumatic tire comprising a bead wire disposed in a bead portion; a carcass ply which comprises a rubber-coated cord layer made of a plurality of parallel cords, each end of the carcass ply being turned up at the bead portions and fixed to the bead portion; and a bead filler disposed radially outward of the bead wire, wherein the bead filler comprises the short fiber as defined in claim 30 having a length of 100 mm or less and a diameter of 0.0001 to 0.8 mm.

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29.

(currently amended): A rubber-reinforcing fiber comprising an organic fiber or

an inorganic fiber made of a non-metallic inorganic compound, the organic fiber or the inorganic

fiber being provided with a coating layer of 10 Å to 40 µm thick, and the coating layer

containing at least one metal and/or metal compound selected from the group consisting of

cobalt, zinc, copper, titanium, silver, nickel and compounds of the preceding metals, or an alloy

of cobalt and at least one alloying element such as selected from the group consisting of zinc,

copper, chromium, titanium, nickel, silver, tungsten, tantalum and molybdenum, wherein the

organic fiber or the inorganic fiber forms a fiber aggregate consisting of glass wool, nonwoven

fabric, knitted fabric and net fabric.

30. (currently amended): A rubber-reinforcing fiber comprising an organic fiber or

an inorganic fiber made of an-a non-metallic inorganic compound, the organic fiber or the

inorganic fiber being provided with a coating layer of 10 Å to 40 µm thick, and the coating layer

containing at least one metal and/or metal compound selected from the group consisting of

cobalt, zinc, copper, titanium, silver, nickel and compounds of the preceding metals or an alloy

of cobalt and at least one alloying element such as selected from the group consisting of zinc,

copper, chromium, titanium, nickel, silver, tungsten, tantalum and molybdenum, wherein the

rubber-reinforcing fiber is a short fiber.